

till the end of one thousand million of centuries. Again, if all these masses of gold were fused into one prodigious ball, having the sun for its centre, it would reach out into space in all directions, one thousand seven hundred and thirty-two millions of miles, almost reaching the orbit of Herschel or Uranus; and, if the interest were continued till the end of the present century, it would entirely fill up the solar system, and even encroach five hundred millions of miles on the domains of the void beyond the planet of Neptune, whose orbit, at the distance of two thousand eight hundred and fifty million of miles from the sun, encircles our whole system of worlds.

The present system of figures is called the Arabic method, but it should be more properly termed the Indian method, because it had its origin among the Hindoos of India, from whom the Arabs learned it; and they, in turn, carried the art into Spain, where they practised it during their long occupation of that country.

The publication of their astronomical tables in the form of almanacs was the principal means of gradually spreading it abroad among the surrounding nations; but so slow was the progress that it was not generally established until about the middle of the sixteenth century.—*N. Y. E. Post.*

Ventilation.

The best specimen of ventilation on a large scale is perhaps in the Houses of Parliament, under the direction of Sir Goldsworthy Gurney, and is partly effected downwards through the floor of the Houses of both Lords and Commons, and partly upwards above the roof. The floors are of cast-iron, full of holes, like a honey-comb, and covered with a hair-cloth, or porous carpet, so that the air can pass freely through it. Below the floor there is a special air-shaft reaching to the carpet about 10 by 20 feet, through which the foul air is extracted; this descending shaft extends all the way from the floor of the Houses down to the extracting air-courses communicating with the Clock and Victoria Towers.

A square shaft in each of the towers is now made an upcast, by means of a coke fire burning at the bottom; so that the vitiated air is thus carried away.

Through the other portion of the floor, not connected with the ventilating shaft, fresh air is supplied, and this balance of interchange is so nicely contrived that the effect is perfectly imperceptible.

The Houses, during ventilation, are kept at a uniform temperature of about 64°. In cold weather the air is warmed by passing over hot water pipes, and in very hot weather the air is cooled by passing over blocks of ice before its entrance into the House.

The external air, both on the terrace next the river, in the courts, and the roof, is in a balance with the air of the House,—“a feather balance;” a feather suspended moves in the House neither up nor down, nor will smoke (introduced by way of experiment) after it becomes of the same temperature as the air of the House itself.

It is evident that rooms intended to hold a large assembly of persons might be ventilated in a similar manner, and even the apartments of houses might be similarly dealt with, by having a square perforated opening in some part of the room communicating with a downcast shaft terminating in the kitchen

chimney. The kitchen fire in this case would create a sufficient draught for carrying away the vitiated air of the apartment; or the downcast shaft in this case might be made in such a manner that the foul air from the apartment above would be made to pass through the kitchen fire. The opening in the upper room could be easily concealed by a suitable piece of furniture. For admitting fresh air into the apartment, another grated opening would be required in the floor, which could be concealed like the former one. There ought also to be perforations in the cornice of the apartment for carrying off the ascending heated air; for in an apartment containing a number of persons, the lower stratum of air is of a greater specific gravity than the air above, consequently the lower portion is drawn off by the downcast ventilating shaft, whilst the upper portion passes off as already explained. To ventilate rooms in this manner would not be difficult if the ventilating passages were contrived during the erection of a building; and in many mansions already built it would be desirable that such a mode of ventilation should be adopted. Many churches containing large congregations, and public assemblies, are so badly supplied with a change of air, that the air, especially in the galleries, is almost insupportable, and, consequently, detrimental to health. Some of our theatres are, likewise, labouring under a similar inconvenience. Every person who has been in a crowded theatre must have experienced the relief which is afforded by a supply of air when the curtain or drop is drawn up. The chandelier, it is true carries off a large quantity of heated air, but the heavier stratum below is not so easily removed.

The Royal Italian Opera, Covent Garden, appears to be the best ventilated theatre in London, care having been taken to give sufficiency of space, and to provide for the egress and ingress of air.

The ventilation of small dwellings might be effected by inserting perforated zinc plates in the skirting board of the several rooms, by which the air could be admitted from the hall or passages, which plates might be painted uniformly with the skirting board of the room, whilst similar perforated plates, or ventilating holes, should be placed in the upper part of the room to carry off the deteriorated air, and there might also be placed a ventilator of a similar kind in the chimney shaft above the fireplace. All such openings may be easily concealed in building a house; but our builders, nay even our architects, seem entirely to consider ventilation a matter of no moment whatsoever. Witness, for instance, the Houses of Parliament, the ventilation of which was an afterthought carried out at an enormous expense.—*Sanitary Reporter.*

Rowland's Soap.

This is soap mixed with some liquid hydrocarbon, as turpentine, coal tar, naphtha, camphine, &c., whereby the detergence of the soap is said to be greatly increased. It is prepared by dissolving 3lbs. of soap in 1lb. of water with the aid of heat; adding to another pound of water 2 oz. of farina, flour, dextrin, starch, oatmeal, or other analogous substance, mixing and boiling to the consistence of a paste, adding this paste to the dissolved soap, and stirring till a perfect incorporation of the materials is effected; or the whole of the water